Project Management

Tuesday, November 27th

Announcements

Interview with E. Dunham on Tuesday

Final exam study guide is online

Make-up exams: Email me by tomorrow (Wed) night

Project Management

Done by “Managers”

Typical Tasks

Project Management

Scheduling

Risk Management

Measurement

"Managers" can Control

Resources

Time

Product

Risk

"Managers" can Control

Resources ?

Time ???

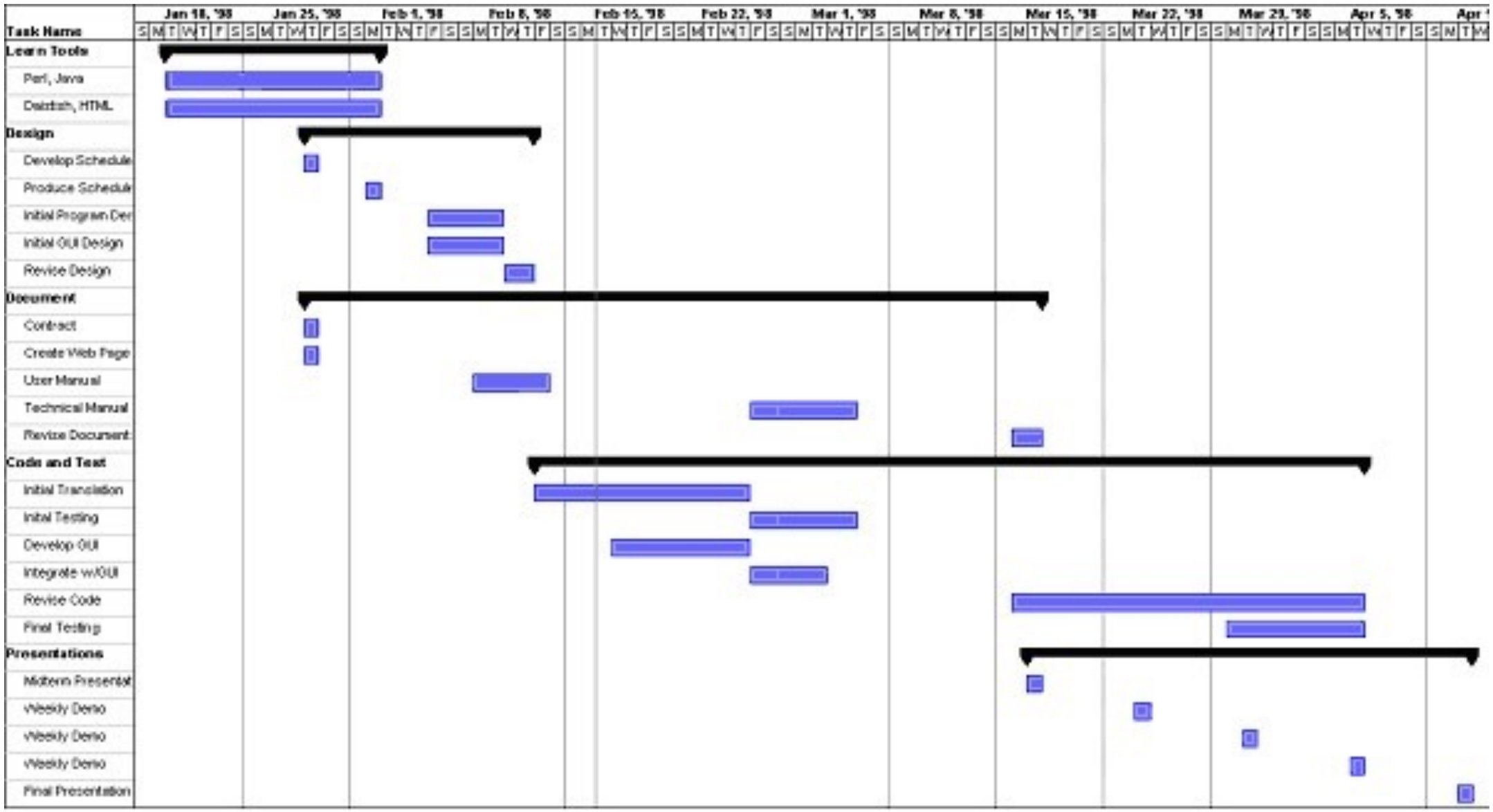
Product

Risk ??

Management Terms - WBS: Work Breakdown Schedule

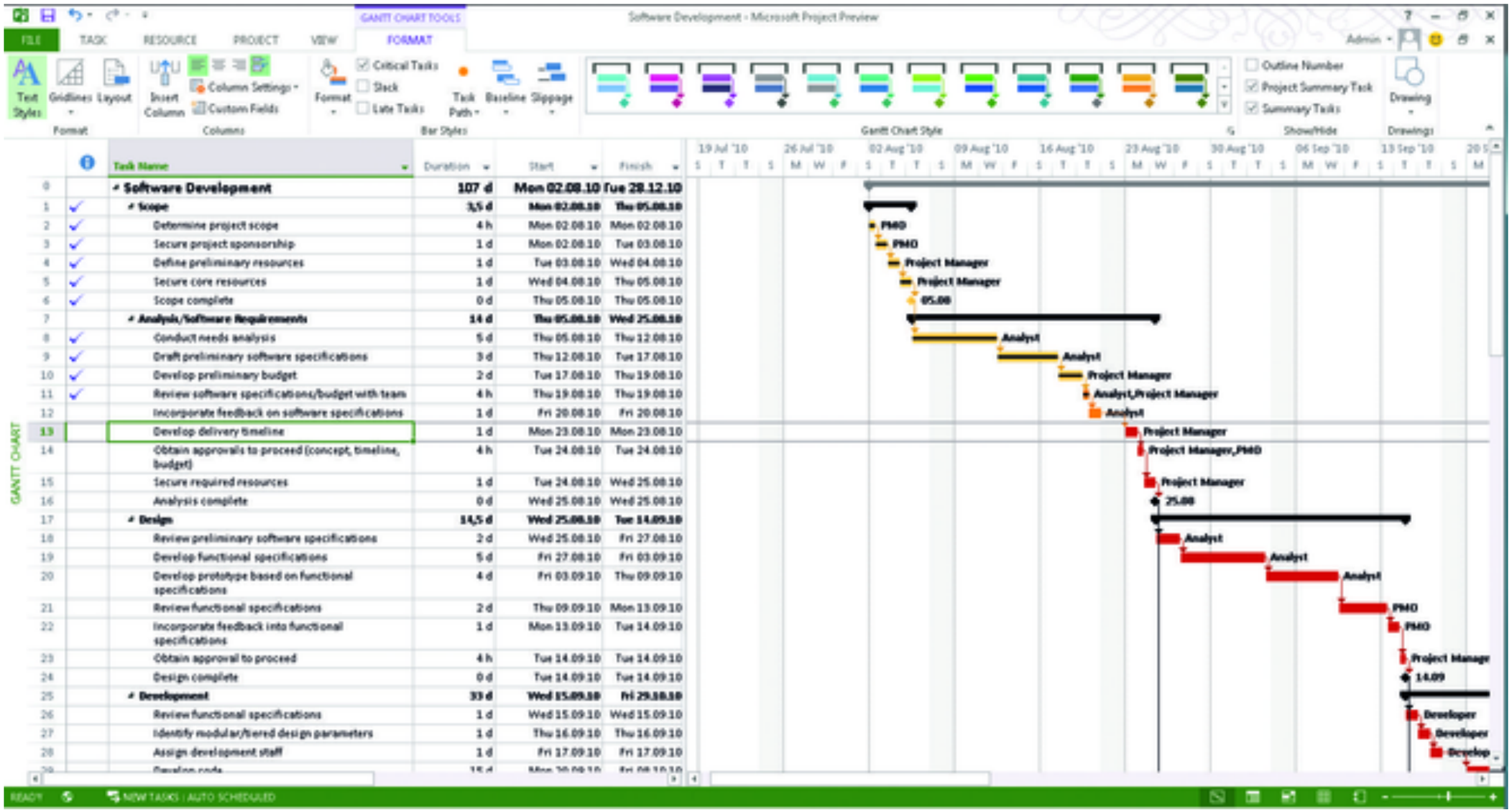
	Task Mode	WBS	Task Name	Duration	Start	Finish	Predec
1		1	**Landscape Job at New Home**	**40 days?**	**Mon 4/7/14**	**Mon 6/2/14**	
2		1.1	**Design home landscape**	5 days	Mon 4/7/14	Fri 4/11/14	
3		**1.2**	**Put in Lawn**	**2 days**	**Mon 4/14/14**	**Tue 4/15/14**	
4		1.2.1	Acquire lawn materials	2 days	Mon 4/14/14	Tue 4/15/14	2
5		**1.3**	**Install sprinklers**	**7 days**	**Wed 4/16/14**	**Thu 4/24/14**	
6		1.3.1	Identify locations	1 day	Wed 4/16/14	Wed 4/16/14	4
7		1.3.2	Dig trenches	2 days	Thu 4/17/14	Fri 4/18/14	6
8		1.3.3	Install Pipe & HW	3 days	Mon 4/21/14	Wed 4/23/14	7
9		1.3.4	Cover prinkler lines	1 day	Thu 4/24/14	Thu 4/24/14	8
10		1.3.5	Sprinklers complete	0 days	Thu 4/24/14	Thu 4/24/14	9
11		**1.4**	**Plant Grass & Shrubs**	**15 days?**	**Fri 4/25/14**	**Thu 5/15/14**	
12		1.4.1	Remove construction debris	4 days	Fri 4/25/14	Wed 4/30/14	9
13		1.4.2	Prepare soil	4 days	Thu 5/1/14	Tue 5/6/14	12
14		1.4.3	Plant shrubs	6 days	Wed 5/7/14	Wed 5/14/14	13
15		1.4.4	Plant lawn seed	1 day?	Thu 5/15/14	Thu 5/15/14	14
16		1.4.5	Lawn & shrubs complete	0 days	Thu 5/15/14	Thu 5/15/14	15
17		**1.5**	**Build Fence**	**11 days?**	**Fri 5/16/14**	**Mon 6/2/14**	
18		1.5.1	Acquire fence materials	1 day?	Fri 5/16/14	Fri 5/16/14	16
19		**1.5.2**	**Install fence**	**10 days?**	**Mon 5/19/14**	**Mon 6/2/14**	
20		1.5.2.1	Mark fence line	1 day?	Mon 5/19/14	Mon 5/19/14	18
21		1.5.2.2	Install posts	5 days	Tue 5/20/14	Mon 5/26/14	20
22		1.5.2.3	Install fence & gates	1 day?	Tue 5/27/14	Tue 5/27/14	21
23		1.5.2.4	Paint/stain fence & gates	3 days	Wed 5/28/14	Fri 5/30/14	22
24		1.5.2.5	Fence complete	0 days	Mon 6/2/14	Mon 6/2/14	23
25		1.6	**Landscape complete**	0 days	Mon 6/2/14	Mon 6/2/14	24

Management Terms - Gantt Chart



http://www.examplesof.com/business/gantt_charts.html

Microsoft Project



Management Buzzwords

Burndown

Critical Path

Milestones

Slippage

Mission Critical

10,000-foot view aka “Big Picture”

Deliverable

SME - Subject Matter Expert

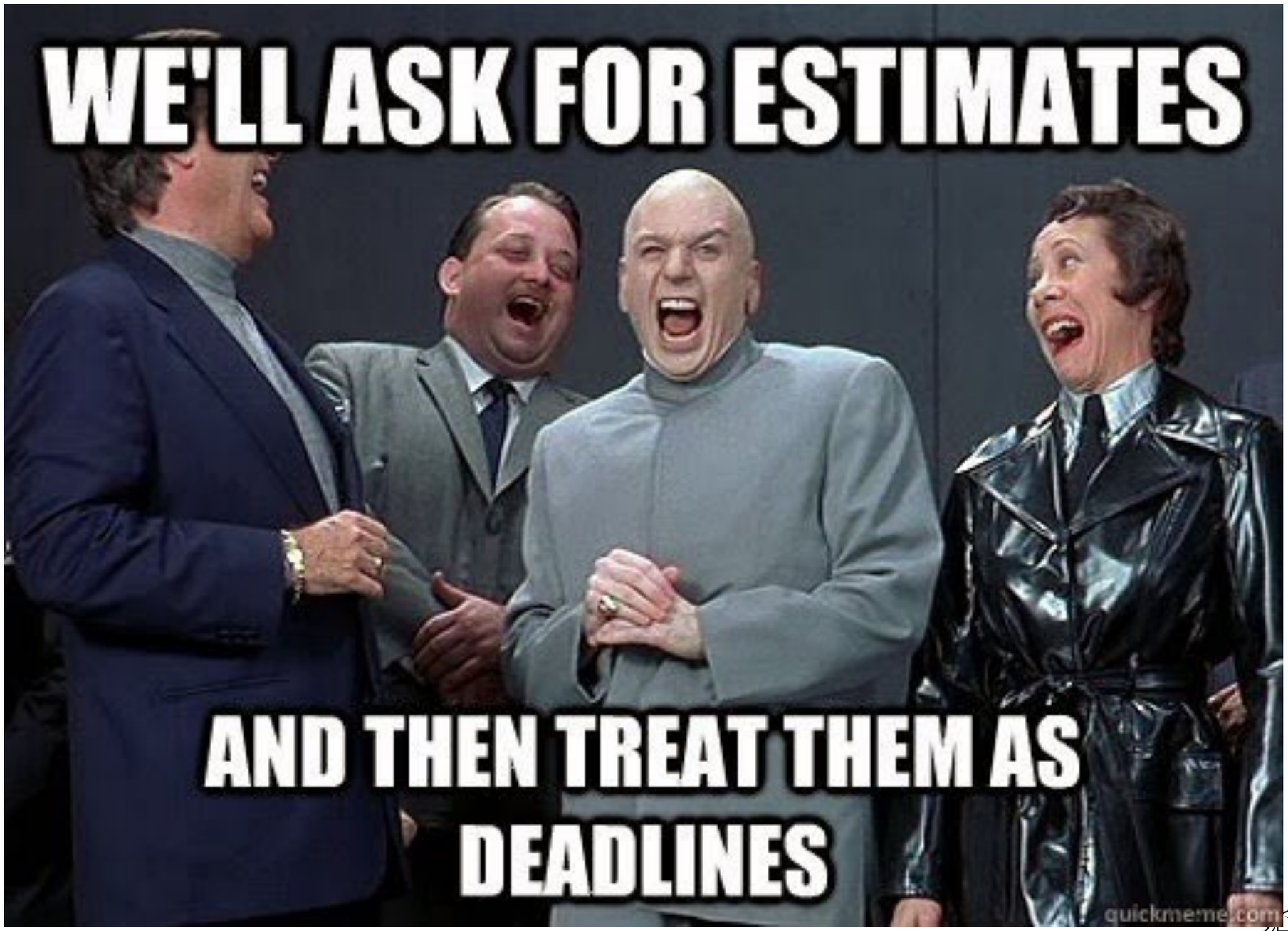
Silos

Task Estimation

Estimation approach	Category	Examples of support of implementation of estimation approach
Analogy-based estimation	Formal estimation model	ANGEL, Weighted Micro Function Points
WBS-based (bottom up) estimation	Expert estimation	Project management software, company specific activity templates
Parametric models	Formal estimation model	COCOMO, SLIM, SEER-SEM, TruePlanning for Software
Size-based estimation models[13]	Formal estimation model	Function Point Analysis,[14] Use Case Analysis, SSU (Software Size Unit), Story points-based estimation in Agile software development
Group estimation	Expert estimation	Planning poker, Wideband Delphi
Mechanical combination	Combination-based estimation	Average of an analogy-based and a Work breakdown structure-based effort estimate
Judgmental combination	Combination-based estimation	Expert judgment based on estimates from a parametric model and group estimation

https://en.wikipedia.org/wiki/Software_development_effort_estimation

#NoEstimates



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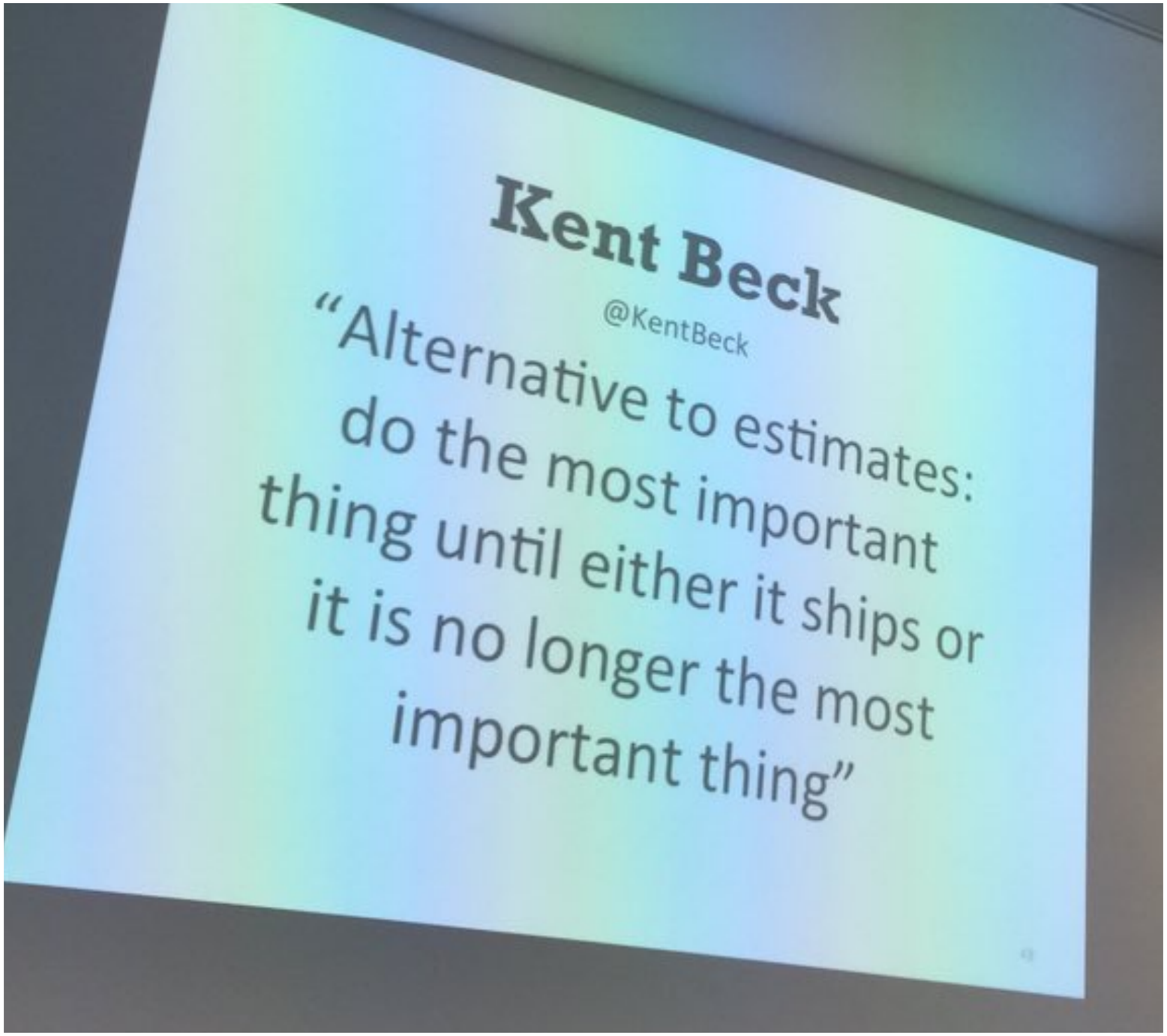

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Trying to meet unrealistic estimates can destroy a team's morale.

Failing to meet an estimate hurts a team's credibility.

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Embrace the “agility” of agile

Risk Management

"…there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns – the ones we don't know we don't know. […] it is the latter category that tend to be the difficult ones."

-Donald Rumsfeld

Risk Matrix

http://www.streetbuild.com/services/whs-risk-management/

Risk Management

We can learn a lot from other forms of engineering

CRM - Crew Resource Management (FAA)

CRM - Continuous Risk Management (NASA)

Crew Resource Management

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Get there right persons attention

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State your concern

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State the problem as you see it

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State the problem as you see it

State a solution

Crew Resource Management

Get there right persons attention

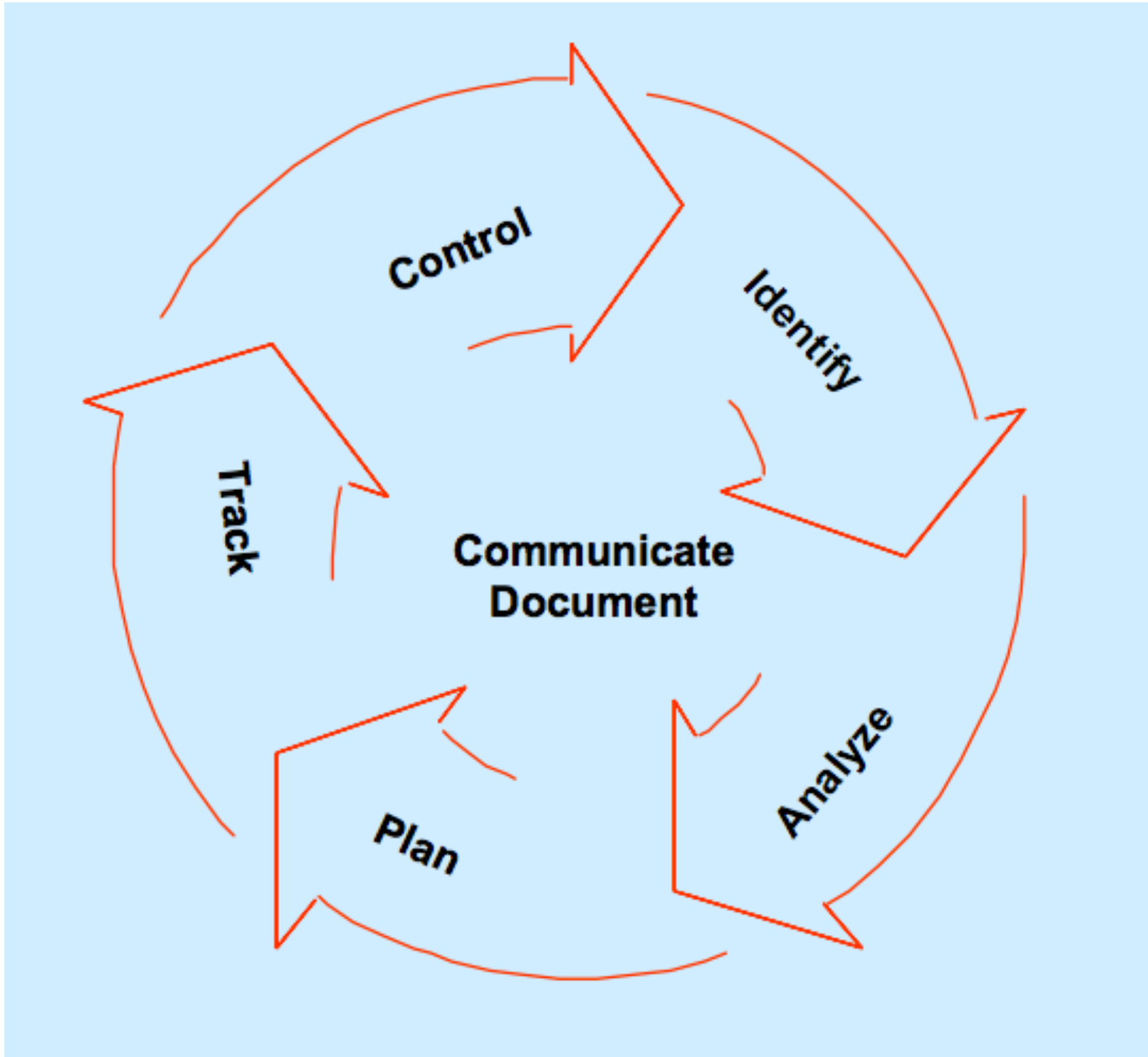
State your concern

State the problem as you see it

State a solution

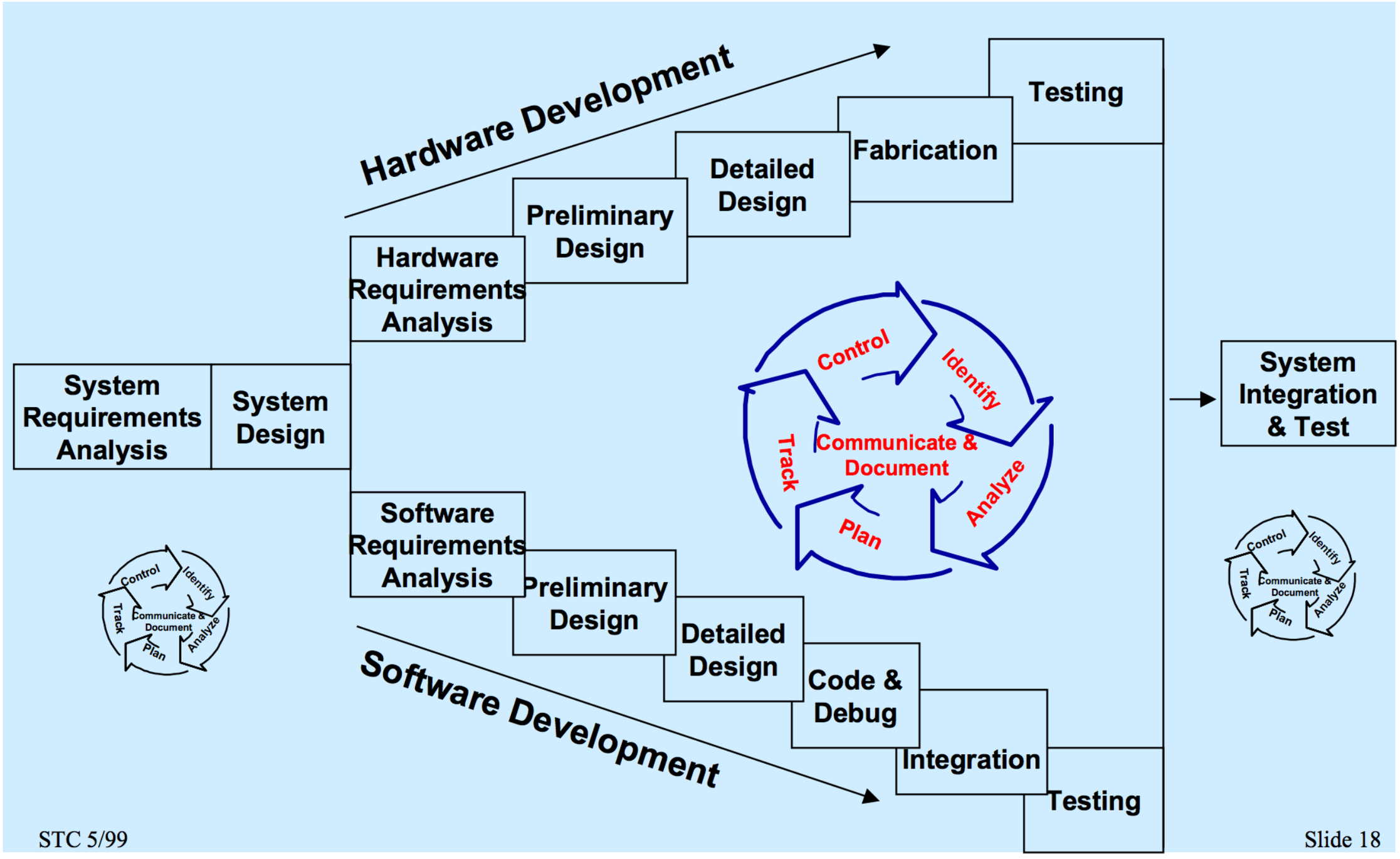
Obtain agreement

Continuous Risk Management



http://www.lomag-man.org/gestiondurisque/riskmanagement/ContRsk1nasa.pdf

Continuous Risk Management



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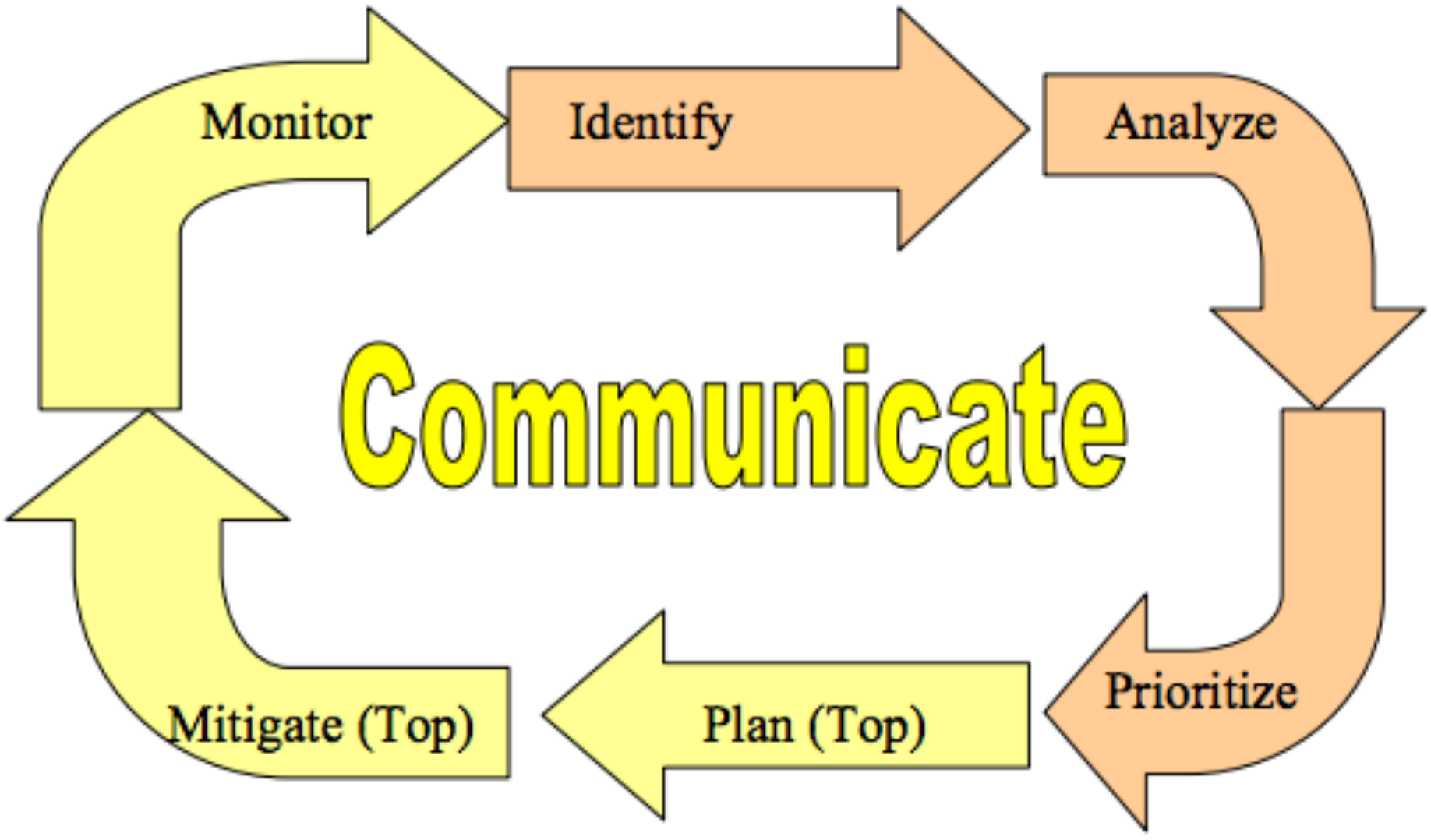
Risk Management Framework



Identify

Identify Risks by Type:

Generic

Product Specific

People, Size, Process, Technology, Tools, Organizational, Material, Customer, Estimation, Sales, Support

Given that <condition> then there is a concern that (possibly) <transition>

Analyze

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Probability: Categorical, 0-100%

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Impact: Categorical, Time, Money,

Prioritize

Decide which risks to take actions on

Some risks may be out of our control

Some risks may not be worth preventing

Plan

Each risk that we identified as needing action, we should come up with a plan to mitigate

Possible Strategies:

Get more information

Develop Contingency Plan

Risk Reduction

Risk Acceptance

Mitigate

Example Mitigation Strategies

Risk Avoidance

Risk Protection

Monitor

Ongoing activity

Keep track of state of risk

Some risks go away with time, others get worse

Communicate

Everyone should be aware of the current risks being monitored.

There are very few things worse than having a failure which was not anticipated.